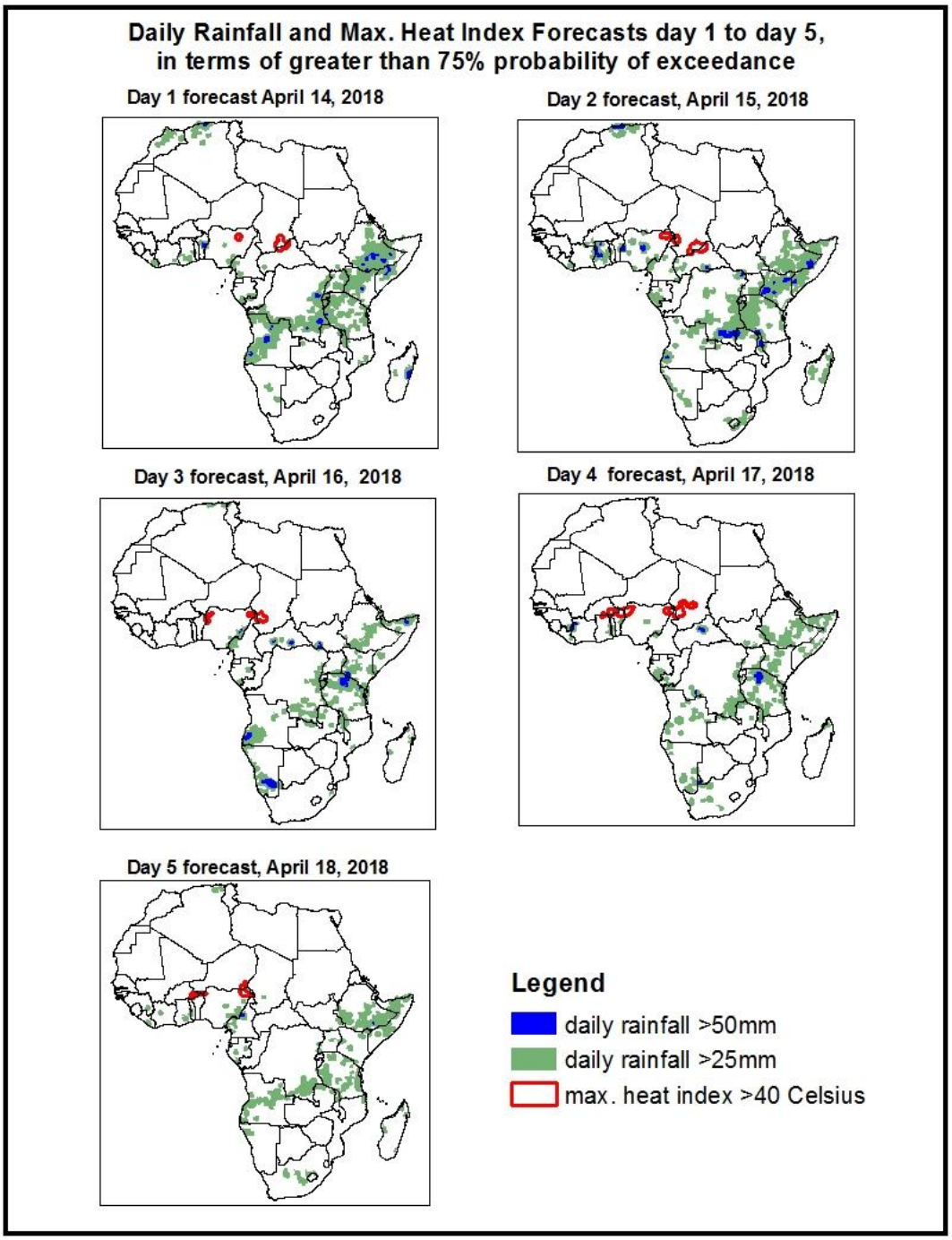
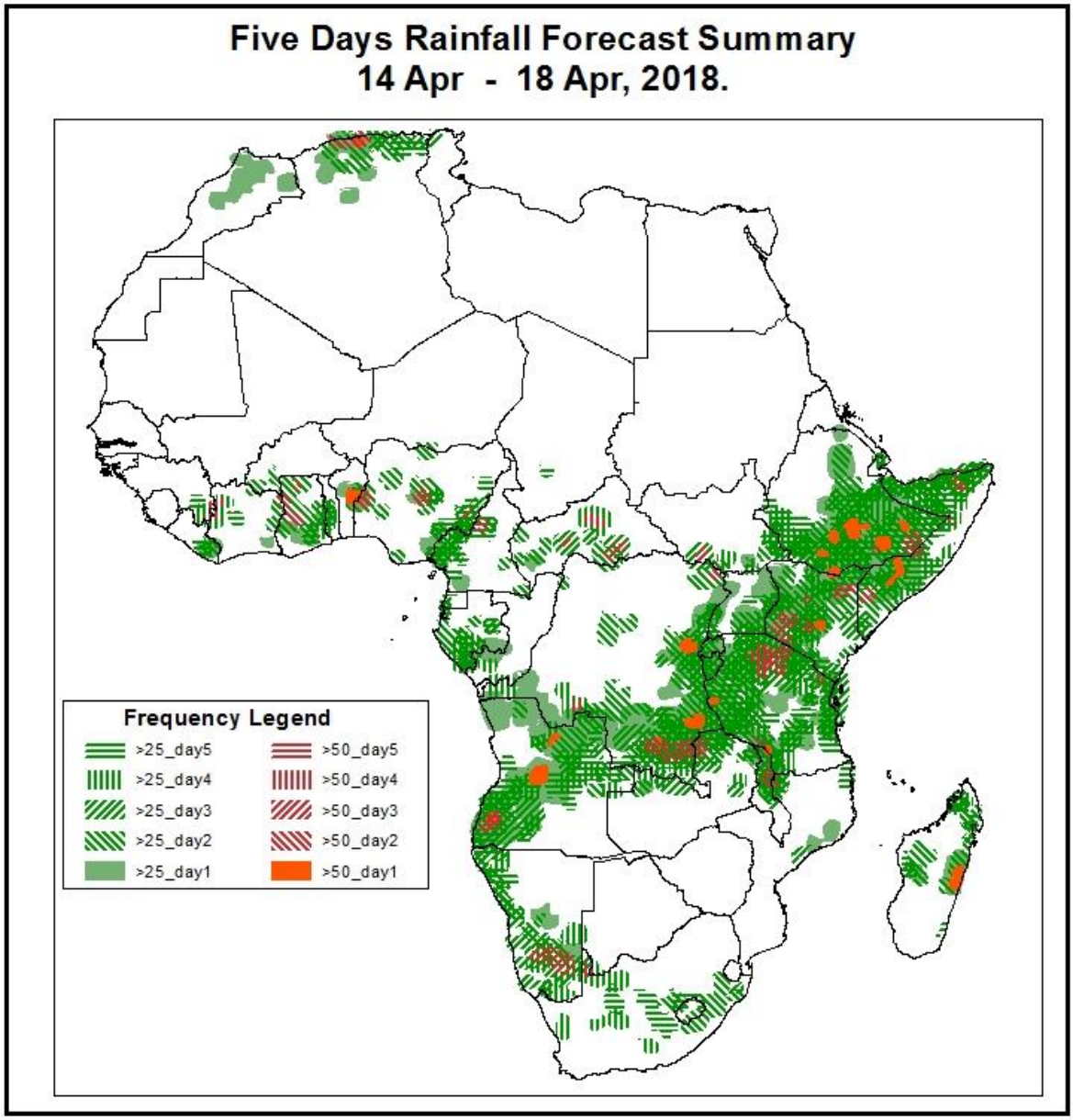
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1. Rainfall, Heat Index and Dust Concentration Forecasts, (Issued on April 13, 2018)

1.1. Daily Rainfall and Maximum Heat Index Forecasts *(valid: Apr 14, – Apr 18, 2018)*

The forecasts are expressed in terms of high probability of precipitation (POP) and high probability of maximum heat index, based on the NCEP/GFS and the NCEP Global Ensemble Forecasts System (GEFS) and expert assessment.



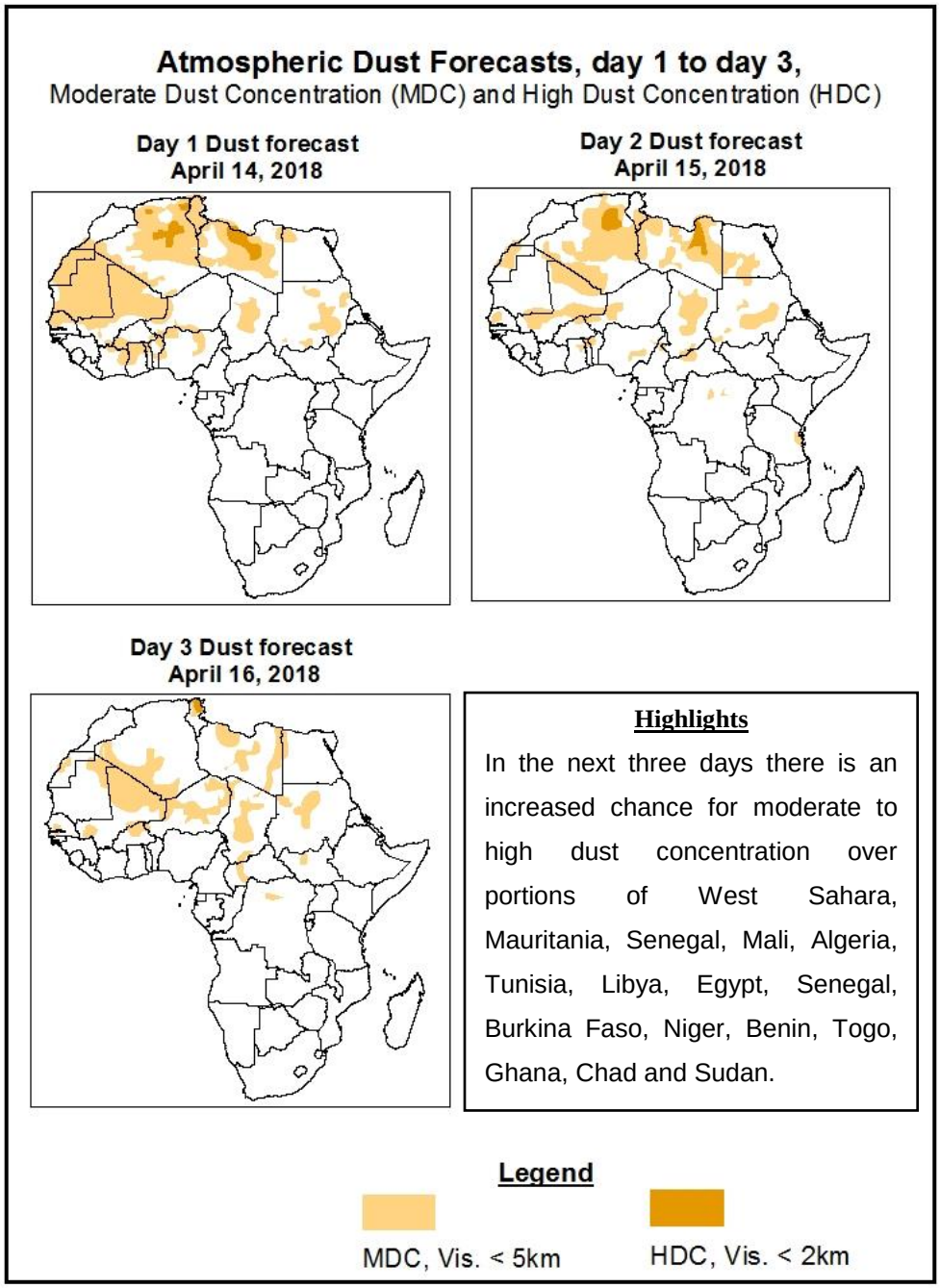


Highlights

In the next five days, lower-level convergence across Zambia and Tanzania, and lower-level wind convergence near Madagascar, and a low monsoon entrance in West Africa are expected to enhance rainfall in the in the southern and eastern part of Africa then a reduction of rainfall in western part. As a result, there is an increased chance for two or more days of moderate to heavy rainfall over portions of Algeria, Liberia, Cote d'Ivoire, Ghana, Benin, Nigeria, Cameroon, Gabon, DRC, CAR, Angola, Namibia, Zambia, Burundi, Rwanda, South Africa, Malawi, Tanzania, Ethiopia, Djibouti, Kenya, Somalia, South Sudan, Uganda and Madagascar.

1.2. Atmospheric Dust Concentration Forecasts (valid: Apr 14, – Apr 16, 2018)

The forecasts are expressed in terms of high probability of dust concentration, based on the Navy Aerosol Analysis and Prediction System, NCEP/GFS lower-level wind forecasts and expert assessment.



1.3. Model Discussion, *Valid: Apr 14 – Apr 18, 2018*

The Azores High Pressure system over the North Atlantic Ocean is expected to intensify in the first three days and then weaken in the last two days of the forecast period. The central pressure values increases from about 1028 hPa to 1032 hPa and decreases to 1027 hPa during the forecast period..

The St. Helena High Pressure system over the Southeast Atlantic Ocean is expected to weaken during the forecast period. The central pressure values ranges from about 1026 hPa to 1023 hPa during the forecast period.

The Mascarene High Pressure system over the Southwest Indian Ocean is expected to weaken in the first three days and then intensify in the last two days of the forecast period. The central pressure values decreases from about 1032 hPa to 1026 hPa and increases to 1027 hPa during the forecast period.

At 925hPa, dry strong northeasterly to easterly wind is expected to prevail across northern Africa and portions of the Sahel region.

At 850hPa, in West Africa, it is expected a slight southward shift of the Inter Tropical Convergence Zone and a low monsoon entrance while the broad area of wind convergence remain active the northern portions of Zambia during the forecast period. A strong westerly flow with its associated lower-level convergence is expected to prevail across the northern portions of the Mozambique Channel and northern Madagascar.

In the next five days, lower-level convergence across Zambia and Tanzania, and lower-level wind convergence near Madagascar, and a low monsoon entrance in West Africa are expected to enhance rainfall in the in the southern and eastern part of Africa then a reduction of rainfall in western part. As a result, there is an increased chance for two or more days of moderate to heavy rainfall over portions of Algeria, Liberia, Cote d'Ivoire, Ghana, Benin, Nigeria, Cameroon, Gabon, DRC, CAR, Angola, Namibia, Zambia, Burundi, Rwanda, South Africa, Malawi, Tanzania, Ethiopia, Djibouti, Kenya, Somalia, South Sudan, Uganda and Madagascar.

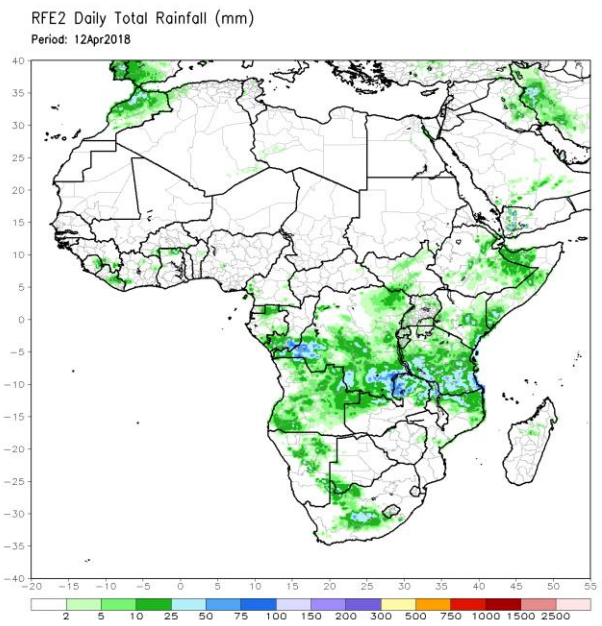
2.0. Previous and Current Day Weather over Africa

2.1. Weather assessment for the previous day (April 12, 2018)

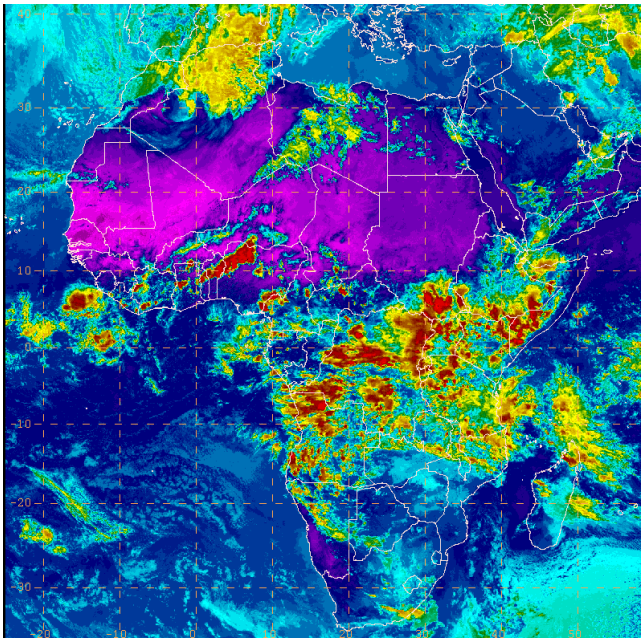
Moderate to locally heavy rainfall was observed over parts of Liberia, Sierra Leone, Gabon, Congo, Angola, Namibia, DRC, South Soudan, Zambia, Kenya, Mozambique, Malawi, Ethiopia, Somalia, South Africa and Tanzania.

2.2. Weather assessment for the current day (April 13, 2018)

Intense convective clouds are observed over across the central parts of DRC. Intense clouds.



IR Satellite Image (valid 1552Z April 13, 2018)



Previous day rainfall condition over Africa (Left) based on the NCEP CPCE/RFE and current day cloud cover (right) based on IR Satellite image.

***Authors:* Boris P. Anato** (National Meteorological Agency —METEO BENIN) / CPC-African Desk;.boris.anato@noaa.gov